

# GEM Timeline and Task List

July 2, 2003

## 1 Machining

- OMT
  - Finish OMT body rectangular cutouts: Colleen
  - Turn plunger diameter down to fit: Kate
  - Purchase waveguide: Colleen
  - Purchase waveguide-to-SMA flanges: Kate
  - Attach waveguide to sides: Colleen
  - Layer top of plunger with reflective surface: Kate
  - Machine top flange for OMT, weld to body: Kate
  - Design/cut quarter-wave plate: Kate
  - Secure Q.W.P. inside tubing: Kate
- RF/Equipment Boxes
  - Design second stage box: Erica
  - Machine second stage box: Erica and Kevin
  - Calculate/order SMA cable connections: Erica
  - Design/machine cable inputs and outputs to boxes: Erica
  - Obtain/place temperature regulating resistors on plate: Kevin

## 2 Electronics

- Temperature Control Circuitry
  - Understand circuits: Colleen and Kevin
  - Redesign if necessary: Colleen
- Cryogenics
  - Determine status of Brazil dewar: Kevin
  - Fix/minimize leaks in current dewar: Kevin
  - Test cryodiode: Kevin
- Power Supply Design
  - Design power supply wiring as needed: Colleen and Erica
  - Investigate producing/purchasing working power supply: Kate
- Data Acquisition
  - Fix DAS: Kate with help from John Gibson
  - Read data from serial port: Kate and Liang
  - Reprogram EPROM chip for experiment: Kate
  - Work with Camilo to understand new GEM DAS: Kate and Liang

### 3 Test Setup

- Individual Components
  - Hot and cold load amplifier tests: Kate and Kevin
  - Passive component tests: Kate
  - SMA cable noise loss tests: Kate
- OMT
  - Physically assemble test setup: Kate and Colleen
  - Design test signal: Liang
  - Analyze output data: Liang
  - Adjust plunger location: Kate
  - Place set screws to hold plunger in optimum location: Kate
- Receiver
  - Choose observational target: Kevin and Kate
  - Assemble setup on roof: Everyone
  - Write analysis software: Liang
  - Troubleshooting/redesigning: Everyone